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10/660,952	09/12/2003	Thomas H. James	PD-202107	7018

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THE DIRECTV GROUP, INC.
PATENT DOCKET ADMINISTRATION
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EL SEGUNDO, CA 90245

EXAMINER

FAULK, DEVONA E

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2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/660,952	Applicant(s) JAMES ET AL.	
	Examiner DEVONA E. FAULK	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10,11,13-17 and 19-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10,11,13-17 and 19-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/12/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/20/10 have been fully considered but they are not persuasive.
2. Regarding prior art McDowell, the applicant asserts that McDowell discloses a system wherein the bit allocation data used to define the quantization is fixed and that this does not read on the claim language. The examiner asserts that applicant is arguing something that is not claimed. The claim language as recite that the bit allocation data used to define the quantization is not fixed or that the bit allocation data is adaptive.
3. Regarding claims 2,11 and 20 the applicant asserts that the prior art (McDowell and Fiocca) fails to teach using psychoacoustic measurements as recited . The examiner disagrees. The examiner asserts that prior Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determined a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

In response to applicant's argument that Kallergis is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or,

Art Unit: 2614

if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Kallergis was cited for teaching of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. Therefore, Kallergis is reasonably pertinent to the particular problem to which it was cited to address and is therefore analogous art.

4. Claims 3,9,12,18,21 and 27 are cancelled. Claims 28-33 are new.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 29,30 and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 29,30 and 33 recite that the audio level is measured for all of the dequantized and denormalized extracted sub-band data. The specification fails to teach of this limitation, particularly that the audio level is measured for **all**.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1,8,10,17,19,26,28,30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779).

Regarding claim 1, McDowell discloses a method of automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal, comprising:

(a) extracting sub-band data from the data stream (column 3, lines 24-28; column 10, lines 35-45; implicit) ;

(b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure 9; column 11, lines 6-11);

c) measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) comparing the measured audio level against at least one or more thresholds (step 136 Figure 9; column 12, lines 3-8).

Art Unit: 2614

McDowell fails to disclose means for triggering an alarm as determined by the comparing step (d) . Friedman discloses a means for triggering an alarm when the threshold is exceeded (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

Regarding claim 8, McDowell as modified discloses threshold the audio level (See McDowell,; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 10, McDowell discloses an apparatus automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal DTS, digital theater system, see title of invention; column 4, lines 50-67; columns 9-12), comprising:

Art Unit: 2614

(a) means for extracting sub-band data from the data stream (column 3, lines 24-28; column 10, lines 35-45; means is implicit) ;

(b) means for dequantizing and denormalizing the extracted sub-band data (step 126, Figure 9; column 11, lines 6-11);

c) means for measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) means for comparing the measured audio level against at least one threshold (step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm as determined by the means for comparing (d). Friedman discloses a means for triggering an alarm as determined by a comparing step (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

All elements of claim 10 are comprehended by McDowell as modified (See McDowell as applied above to the rejection of claim 1). McDowell discloses a system and method, the system reading on apparatus (DTS, digital theater system, see title of invention; column 4, lines 50-67; columns 9-12)

Regarding claim 17, McDowell as modified discloses threshold the audio level (See McDowell; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 19, McDowell discloses a method and of automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal, comprising:

- (a) extracting sub-band data from the data stream (column 3, lines 24-28; implicit) ;
- (b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure 9; column 11, lines 6-11);
- c) measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 30 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or

Art Unit: 2614

property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) comparing the measured audio level against at least one or more thresholds (step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm determined by the comparing step of (d). Friedman discloses a means for triggering an alarm determined by a comparing step (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

McDowell fails to disclose computer readable medium comprising a program storage device embodying executable instructions. The examiner takes official notice that a computer storage medium embodied with a program having executable

Art Unit: 2614

instructions was known in the art. It would have been obvious to modify McDowell as modified by having an article of manufacture that included a program storage device embodying executable instructions to provide more efficient processing and so that the method of automatic measurement could be applied to various apparatuses.

Regarding claim 26, McDowell as modified discloses threshold the audio level (See McDowell, step 136 Figure 9; column 12, lines 3-8).

Regarding claims 28,30 and 32, the examiner takes official notice that adjusting an audio level within a data stream or channel according to some measured audio level is well known in the art. It would have been obvious to modify McDowell as modified so that the audio level is adjusted as claimed for the benefit of being able to accommodate changes in the audio level.

7. Claims 2, 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Fiocca (US 5,625,743).

Regarding claim 2, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6, lines 57-67). It would have been obvious to modify McDowell so

Art Unit: 2614

that the psychoacoustic model is used to determined a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 11, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determined a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 20, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determined a perceived level of the measured

Art Unit: 2614

audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

8. Claims 4,5,13,14,22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Kallergis (US 4,934,483).

Regarding claim 4, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 5, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 13, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as

Art Unit: 2614

modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 14, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 22, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 23, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

9. Claims 7,16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Smith (US 2002/0173864).

Regarding claim 7, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

Regarding claim 16, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

Regarding claim 25, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

9. Claims 6, 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Pai et al. (6,801,886).

Art Unit: 2614

Regarding claim 6, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time. Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Regarding claim 15, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time. Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Regarding claim 24, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time. Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency

Art Unit: 2614

band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Primary Examiner, Art Unit 2614